

greenly

2025-09-13

Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

2.814.869 (sold in FR)

Summary



01 | Methodology



02 | Results

01

Methodology

Environmental Impact Assessment

| | |
|--|---|
| Functional unit | <p>The functional unit is a quantified performance of a product system for use as a reference unit. One of the primary purposes of a functional unit is to provide a reference to which the input and output data are normalized (in a mathematical sense).</p> <p>The functional unit of this analysis is "500 page(s) of A4 paper for writing".</p> |
| Impact Indicator | <p>The impact is measured through the "IPCC 2013 GWP 100a" method.</p> |
| Electricity impact calculation method | <p>Following guidelines from the GHG Protocol, the impact of electricity is calculated using the location-based approach. This means that the emission factors used represent the average annual carbon intensity of the power grid in the country the processes take place in.</p> |
| Hypothesis | <p>Manufacturing Processes and associated loss percentages are assumed based on materials in the product.</p> <p>The electricity is based on the average in the country of manufacturing.</p> <p>Transportation is based on the common routes between the country of manufacturing and the country of sale.</p> <p>No replacements during the lifetime, therefore there are no emissions corresponding to the usage phase.</p> <p>The End of Life is based on the average waste management process of the materials in the product.</p> |

Environmental Impact Assessment

System Boundaries

The scope of this research includes the complete lifecycle of a piece of paper from raw material extraction to disposal options for each material, which is the cradle-to-grave perspective.

Exclusions

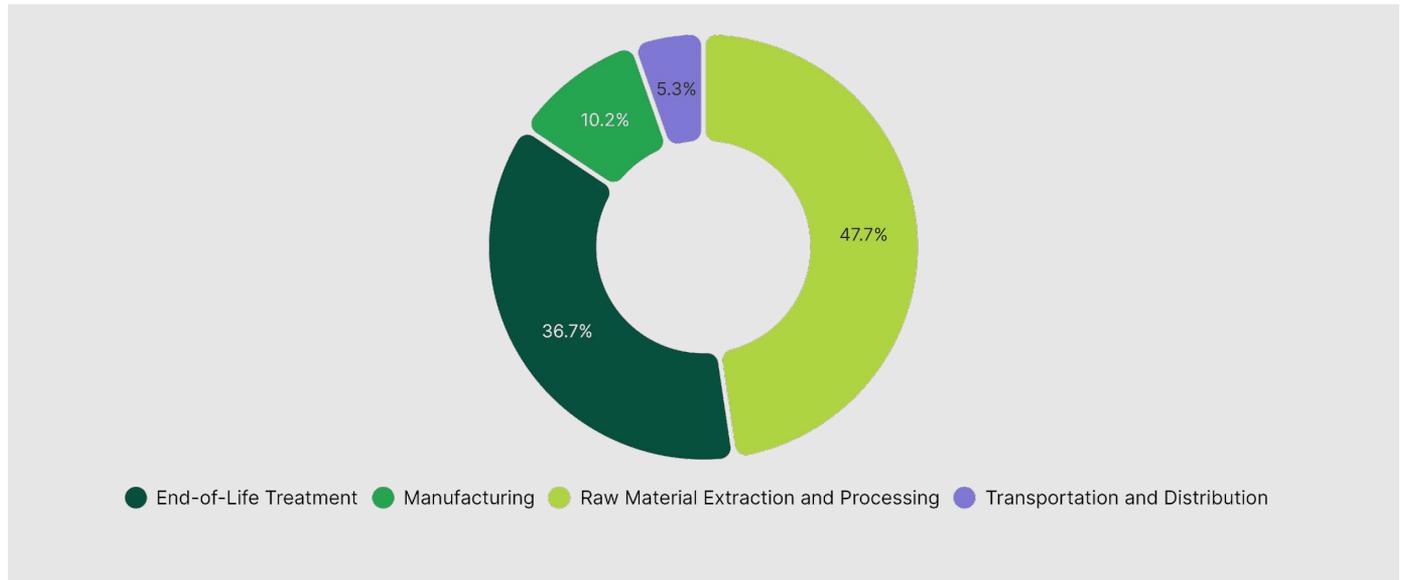
The impact of secondary packaging impact and writing utensils are excluded from this assessment.

02

Results

2.814.869 (sold in FR)

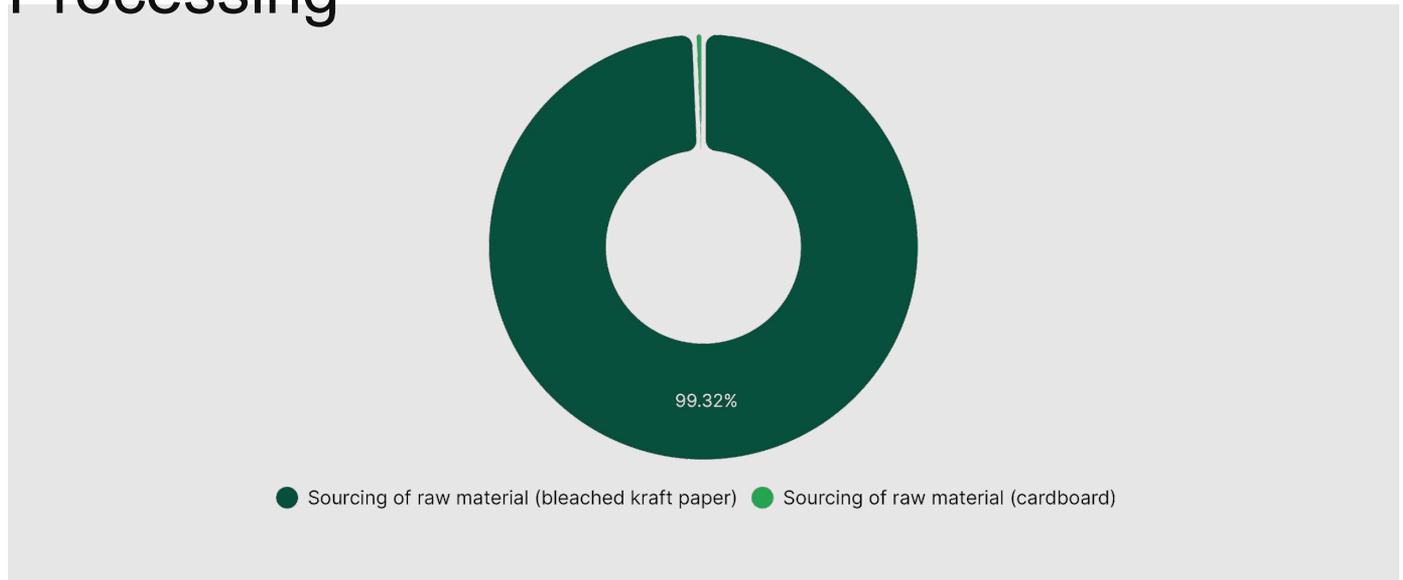
Climate Change



| Step | Impact (kg CO ₂ eq) | Percentage (%) |
|--|--------------------------------|-----------------|
| Raw Material Extraction and Processing | 1.75 | 47.68 % |
| End-of-Life Treatment | 1.35 | 36.73 % |
| Manufacturing | 0.38 | 10.25 % |
| Transportation and Distribution | 0.2 | 5.34 % |
| TOTAL | 3.68 | 100.00 % |

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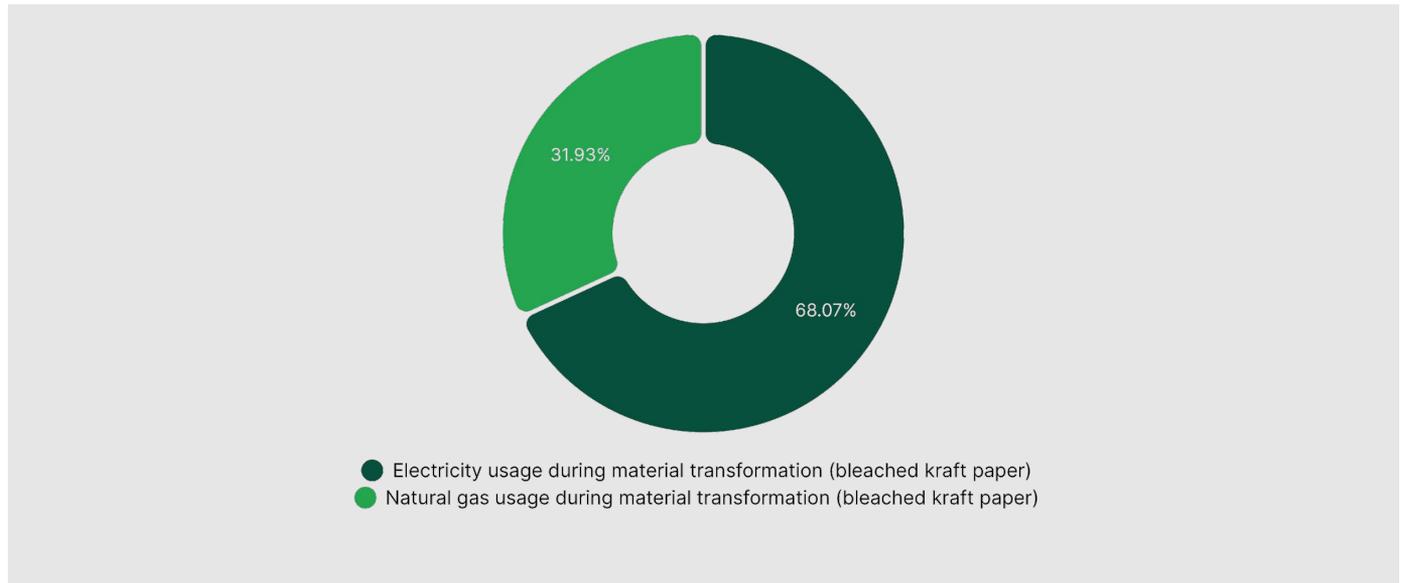
Climate Change - Raw Material Extraction and Processing



| Activity | Emission Factor Num | Quantity | Impact (kg CO ₂ eq) | Percentage (%) |
|---|---------------------|----------|--------------------------------|----------------|
| Sourcing of raw material (bleached kraft paper) | 1 | 3.5 | 1.74 | 99.32 % |
| Sourcing of raw material (cardboard) | 2 | 0.02 | 0.01 | 0.68 % |
| TOTAL | | | 1.75 | 100.00 % |

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Climate Change - Manufacturing



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|---|---------------------|----------|-------------------------------|----------------|
| Electricity usage during material transformation (bleached kraft paper) | 3 | 1.24 | 256.62 | 68.07 % |
| Natural gas usage during material transformation (bleached kraft paper) | 4 | 0.66 | 120.35 | 31.93 % |

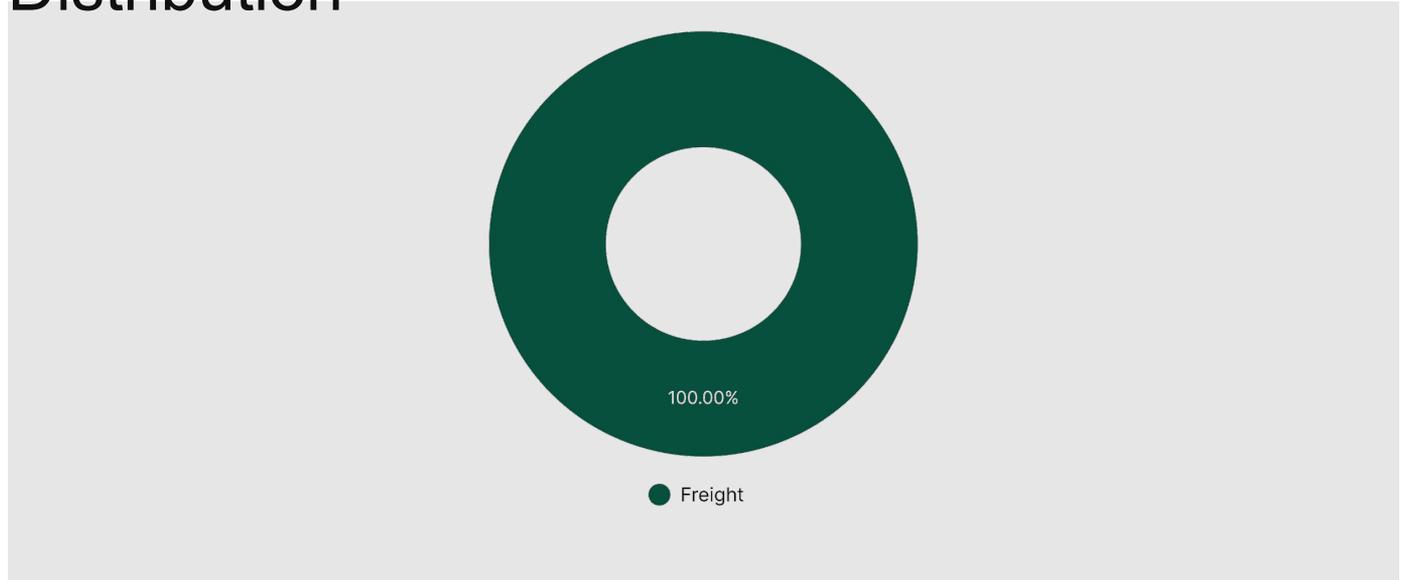
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| TOTAL | | | 376.97 | 100.00 % |
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2.814.869 (sold in FR)

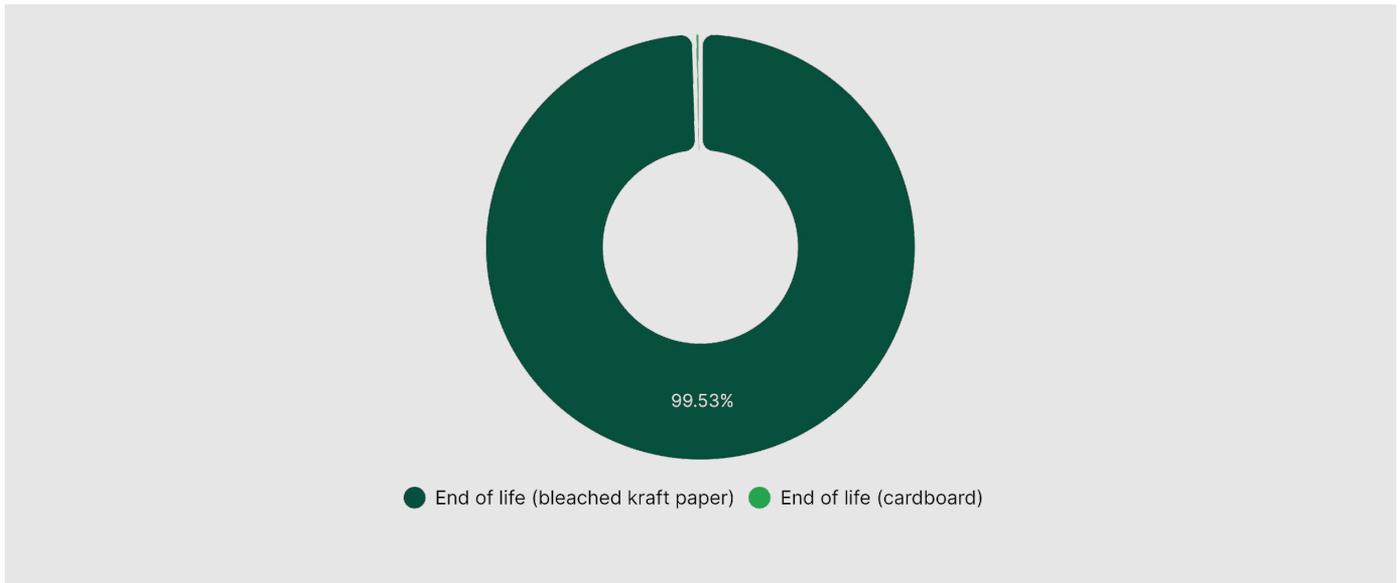
Climate Change - Transportation and Distribution



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|----------|---------------------|----------|-------------------------------|----------------|
| Freight | 5 | 2.34 | 196.26 | 100.00 % |
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| TOTAL | | | 196.26 | 100.00 % |

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Climate Change - End-of-Life Treatment



| Activity | Emission Factor Num | Quantity | Impact (kg CO ₂ eq) | Percentage (%) |
|------------------------------------|---------------------|----------|--------------------------------|----------------|
| End of life (bleached kraft paper) | 6 | 2.33 | 1.34 | 99.53 % |
| End of life (cardboard) | 6 | 0.01 | 6.35 · 10 ⁻³ | 0.47 % |

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| TOTAL | | | 1.35 | 100.00 % |
|-------|--|--|------|----------|

Contact us

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